

## REMARKS

This is intended as a full and complete response to the Office Action dated July 31, 2006, having a shortened statutory period for response set to expire on October 31, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-5 and 20-22 remain pending in the application and are shown above. Claims 6-19 and 23-45 have been cancelled by Applicant. Claims 1-5 and 20-22 stand rejected. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 1 and 20-22 are amended to correct matters of form and clarify the invention. These amendments are not presented to distinguish a reference, thus, the claims as amended are entitled to a full range of equivalents if not previously amended to distinguish a reference. Applicant reserves the right to pursue the original claims at a later date.

Figure 2 stand objected to under 37 CFR 1.821 (a)(1) and (a)(2) by the Examiner. Applicant respectfully traverses the objection.

Applicant has amended paragraph [0019] to clarify the invention and submits that the amino acid sequence in Figure 2 deduced from the sequence of the cloned zebrafish *BMP4* gene corresponds to SEQ ID No. 3. Withdrawal of the objection is respectfully requested.

Claims 1, 20 and 22 stand objected by the Examiner because of informalities. The Examiner states that the claims contain non-elected sequences. Applicant respectfully traverses the objection.

Claims 1-5 and 20-22 are amended to correct informalities and Applicant reserves the right to pursue the original claims at a later date. Withdrawal of the objection is respectfully requested.

Claims 1-5 and 20-22 stand rejected under 35 USC § 112, second paragraph. Applicant respectfully traverses the rejection.

Applicant respectfully submits that claims 1-5 and 20-22 are amended to delete the language of derivatives and fragments thereof the Examiner is objected to and thus

broaden the invention. Applicant reserves the right to pursue the original claims at a later date. Withdrawal of the rejection is respectfully requested.

Claims 1-5 and 20-22 stand rejected under 35 USC § 112, first paragraph. Applicant respectfully traverses the rejection.

Applicant respectfully submits that claims 1-5 and 20-22 are amended to broaden the invention and delete the language of derivatives and fragments thereof. Withdrawal of the rejection is respectfully requested.

Claims 1, 20 and 22 stand rejected under 35 U.S.C. 102(a) as being anticipated by Genbank accession number AY156927. Applicant respectfully traverses the rejection.

Claims 1-5 and 20-22 are amended to include an isolated DNA molecule comprising a zebrafish bone morphogenetic protein 4 gene encoding a zebrafish bone morphogenetic protein 4 and including a nucleic acid sequence of SEQ. ID NO. 1 and SEQ ID NO. 9. Applicant respectfully submits that Genbank accession number AY156927 include a DNA clone with a partial DNA sequence that the inventors have identified and does not disclose the complete gene of a zebrafish bone morphogenetic protein 4 gene encoding a zebrafish bone morphogenetic protein 4 and including a nucleic acid sequence of SEQ. ID NO. 1 and SEQ ID NO. 9. Accordingly, Genbank accession number AY156927 does not teach, show, or suggest a zebrafish bone morphogenetic protein 4 gene encoding a zebrafish bone morphogenetic protein 4 and including a nucleic acid sequence of SEQ. ID NO. 1 and SEQ ID NO. 9, as recited in claims 1-5 and 20-22. Withdrawal of the rejection is respectfully requested.

Claims 1-5 and 20-22 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Petersen*, US 6,071,518. The examiner states that a 19 nucleotide bases of GP 900 cDNA sequence show sequence similarity to the isolated DNA molecule of SEQ ID No. 1. Applicant respectfully traverses the rejection.

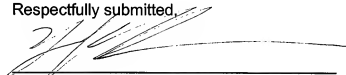
*Petersen* discloses cDNA clones having nucleic acid sequences encoding a parasite *Cryptosporidium* GP 900 surface glycoprotein. *Petersen* does not teach, show, or suggest an isolated DNA molecule comprising a zebrafish bone morphogenetic protein 4 gene encoding a zebrafish bone morphogenetic protein 4 and including a

Applicant presents new claims 46-60 to be considered by the Examiner. Applicant submits that the references cited by the Examiner, alone or in combination, do not teach, show, or suggest an isolated DNA molecule comprising a zebrafish bone morphogenetic protein 4 gene. In addition, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest an isolated DNA molecule comprising a zebrafish bone morphogenetic protein 4 gene, encoding a zebrafish bone morphogenetic protein 4 and including a nucleic acid sequence of SEQ. ID NO. 1, SEQ. ID NO. 9, and SEQ ID NO. 8. Accordingly, Applicant respectfully requests allowance of the new claims.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Thus, for at least the reasons discussed above, Applicant respectfully submits that the claims are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

Respectfully submitted,



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